Recent Advances in Medical Education

Exciting and needed advances in medical education are occurring around the world. I think the three main paradigm shifts are competency – based training, a team approach to medical care and increased emphasis on the crucial "soft skills" of professionalism and effective communication.

Competency-based training is a shift from the old paradigm of showing that training programs are capable of teaching to showing that trainees can actually do what is expected of them. Not just the ability to do, but to do it well. In ophthalmology this has necessitated development of new valid and reliable competency assessment tools.[1] Importantly, these tools provide a more objective assessment of competence and serve as teaching tools as well. Most countries do not use assessment tools to determine resident competence in surgical procedures and those that do still rely on minimum numbers of cases as a measure of competence. This system must be replaced by valid and reliable measures of competence rather than simply by subjective impression and the number of cases performed. Many of these assessment tools are available in multiple languages on the International Council of Ophthalmology's website (www.icoph.org). To facilitate competency attainment, the United States has recently instituted the "Milestones Project" designed to closely follow a resident as they achieve competency milestones throughout their training.[2] Objective assessments are used when possible to gauge progress and prompt remediation in a more timely fashion. In addition, internationally validated competency – based curricula have been produced to guide ophthalmic education.[3] these curricula are meant to be adapted for local use based on the needs of the population.

The second paradigm shift is the team approach to medical care. In a Lancet commissioned paper, Frenk and associates note "Glaring gaps and inequities in health persist both within and between countries"[4] one of their conclusions is that the team approach to medical care is essential and team training will facilitate this. They advocate "Promotion of inter-professional education that breaks down professional silos while enhancing collaborative and non-hierarchical relationships in effective teams." Thus,

physician led teams with appropriate delegation of duties are essential to effectively provide efficient medical care. Clearly this applies to ophthalmology. We know from recent work by Resnikoff and associates that there is a widening gap between numbers of ophthalmologists and the future need[5]. They conclude that we must "aggressively train eye care teams to alleviate the current and anticipated deficit of ophthalmologists worldwide." There is also data to show that utilization of Ophthalmic Allied Personnel allow ophthalmologists to be more efficient.[6] Nevertheless, some countries do not utilize or even recognize this important eye care cadre. The World Health Organization (WHO) in their recent Universal Eye Health document include Objective 2.3 as the need to "Develop and maintain a sustainable workforce for the provision of comprehensive eye care services as part of the broader human resources for health".[7] The International Council of Ophthalmology (ICO) and the International Joint Commission on Allied Health Personnel in Ophthalmology (IJCAHPO) have recognized this need and are working on both an advocacy position paper and a "starter kit" for creation of new Ophthalmic Allied Personnel training programs. In addition Allied Ophthalmic Personnel and Refractionist competency-based curricula have been produced to facilitate training of team members. More effective use of the ophthalmologist led team must occur if we are to meet the world's eye care needs.

Finally, increased emphasis has been placed on the multiple characteristics of the "good" physician. In the late 1990s the Accreditation Council for Graduate Medical Education (ACGME) in the United States and the Royal College of Physicians in Canada proclaimed the need to teach and assess other relevant physician competencies such as professionalism and communication skills. These "soft – skills" were felt to be essential competencies of the effective physician. This has led to worldwide interest in developing teaching and assessing methods in these previously relatively neglected areas. In the past these competencies were taught primarily by role modeling. However, role modeling occurs whether the student is observing good or bad behavior and it may not be

clear to the learner when a particular behavior is desirable. In ophthalmology, this has led to other modes of teaching including discussion of standardized written vignettes[8] and online ethics modules. Assessment of these competencies traditionally has been with senior physicians who are likely to observe the resident on their best behavior. Multisource (360 degree) tools are needed to provide residents feedback regarding professionalism and communication skills. Questions on a multi-source assessment tool are tailored to the assessor. Thus a nurse or assistant would not rate a physician's medical knowledge but rather their professionalism and communication skills. Probyn and associates used such a tool and also asked for resident self-assessment[9]. They found self – assessment scores were significantly lower than multisource scores. Interestingly, but not surprisingly, a teaching physician was more likely to rate the resident highly than a secretary or program assistant. This emphasizes the importance of obtaining information about professionalism and communication skills from someone other than the resident's supervisor.

These recent advances in medical education have let to increasing emphasis on the physicians' teaching effectiveness. Yet, Ophthalmic educators are rarely taught how to teach. ICO is emphasizing this educational disconnect through a variety of initiatives aimed at improving ophthalmic education and thus patient care. The ICO Teaching the Teachers program includes Regional Courses for Residency Program Directors; World Ophthalmology Educational Colloquium (WOEC) at the World Ophthalmology Congress; Conferences for Ophthalmic Educators occurring during supra-national ophthalmic meetings; and Ophthalmic Surgical Competency Assessment Rubrics (OSCARs). The ICO's Center for Ophthalmic

Educators website (https://educators.icoph.org.) provides myriad resources for ophthalmic educators to improve their educational effectiveness.

REFERENCES

1. **Golnik KC.** Assessment Principles and Tools. MEAJO. 2014; 21: 109-13.
2. **Lee AG, Arnold AC.** The ACGME Milestone Project in Ophthalmology. Surv Ophthalmol. 2013; 58: 3590369.
3. **Lee AG, Chen Y.** Structured Curricula and Curriculum Development in Ophthalmology Residency. MEAJO. 2014; 21: 103-8.
4. **Frenk J, Chen L, Bhutta ZA, et al.** Health Professionals for a new century: transforming education to strengthen health systems in an interdependent world. Lancet. 2010; 376: 1923-58.
5. **Resnikoff S, Felch W, Gauthier TM, Spivey B.** The number of ophthalmologists in practice and training worldwide: a growing gap despite more than 200,000 practitioners. Br J Ophthalmol. 2012; 96: 783-8.
6. **Woodworth KE, Donshik PC, Ehlers WH, Pucel DJ, Anderson LD, Thompson NA.** A comparative study of the impact of certified and noncertified ophthalmic medical personnel on practice quality and productivity. Eye Contact Lens. 2008; 34: 28034.
7. Available at: http://www.who.int/blindness/Zerodraftactionplan2014-19.pdf. Accessed April 29, 2015.
8. **Khan R, Lee A, Golnik K, Paranilam J.** Residency education Professionalism Vignettes. Ophthalmology 2013; 120: 874.
9. **Probyn L, Lang CL, Tomlinson G, Bandiera G.** Multisource feedback and self-assessment of the communicator, collaborator, and professional CanMEDS roles for diagnostic radiology residents. Can Assoc Radiol J. 2014; 65: 379-84.

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